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UNCLAS SECTION 01 OF 02 HARARE 000361

SENSITIVE
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SUBJECT: ZIMBABWE'S ELECTRICAL WOES

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11. (U) SUMMARY: Due to a lack of coal, aging equipment, vandalism, and general neglect, Zimbabwe's electrical power grid currently supplies only half of the country's demand. The result is frequent load-shedding (blackouts) with many rural regions without power at all. Although the Zimbabwe Electricity Supply Authority (ZESA) operates a 750 MW hydro-electric plant in Kariba, its nine coal-burning plants, with a design capacity of 1200 MW, only generate an additional 200 MW. In a barter deal with Namibia, four of the coal-burning generators are being refurbished in exchange for up to 150 MW supplied to Namibia. Compounding the basic lack of power generation are chronic problems with the country's step-down transformers, circuit relays, and transmission lines. For the foreseeable future, insufficient electricity distribution will remain a significant constraint to Zimbabwe's economic recovery.
END SUMMARY.

Problem Begins With Lack of Coal

12. (SBU) ZESA, a government-owned parastatal and sole electricity supplier in Zimbabwe, has come under increasing criticism for failing to meet the power needs of the country. David Chikowore, an electrical engineer with ZESA since 1983, spoke openly about the utility during a meeting with conoff on April 22.

13. (SBU) According to Chikowore, lack of sufficient coal is the root reason ZESA is producing only 50 percent of capacity. In addition to a 750 MW hydro-electric plant at Kariba that is fully operational, Zimbabwe has six major and three supplemental coal-burning plants, all of which suffer from an insufficient coal supply. Hwange, Zimbabwe's principal electricity generating facility, is comprised of six major coal-burning furnaces. Four of the six are designed to generate 120 MW and two are designed to generate 220 MW. The three supplemental coal plants, located in Harare, Bulawayo, and Munyati, each have a design capacity of 100

MW. Although the nine coal-burning plants have a total design capacity of 1220 MW, Chikowore said they are currently only producing, on average, 200 MW. Further, the three supplemental plants in Harare, Bulawayo, and Munyati have been dormant and disconnected from the national grid since 2007, all due to a lack of coal.

¶4. (U) Hwange is also the site of one of the largest coal mines and coal deposits in the Southern African region. Like other Zimbabwe state-run enterprises, Hwange Colliery Company suffers from a severe shortage of working capital needed to repair and replace worn equipment. According to MineWeb, a mining news reporting service, the Hwange colliery is operating at less than 50 percent capacity and suffers from chronic breakdowns of its heavy equipment. Unofficial estimates define Zimbabwe's monthly demand at approximately 400,000 tons, with Hwange supplying less than 180,000.

In 2007, Hwange Colliery estimated a need of USD 60 million to bring the mine back to normal capacity. According to Chikowore, the Qbring the mine back to normal capacity. According to Chikowore, the conveyor belt used to supply coal from the mine to the Hwange power generators has been collapsed for over a year, and the mine's principal heavy piece of equipment, its dragline, suffers from frequent breakdown.

¶5. (SBU) Further reducing the output from the Hwange facility is an ongoing refurbishment of its generators. In a USD 40 million deal brokered between ZESA and Nampower (Namibia's power utility) in 2007, four of the six turbines are being replaced and the corresponding generators refurbished. As part of the original deal, cash-strapped ZESA was to repay Nampower by supplying electricity; initially 50 MW in 2008, followed by an increase to 150 MW over the next five years. Chikowore said the refurbishment had been delayed due to ZESA's inability to honor its side of the deal (supply power) and predicted the refurbishment at Hwange would continue into 2010.

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In addition, Chikowore mentioned that the Hwange refurbishment only included the four smaller generators, and that the remaining 220 MW generators remain out of commission, without any prospect of repair.

Can't Distribute the Power It Generates

¶6. (SBU) Besides not generating enough power, ZESA is also unable to equitably distribute the power it does generate. Chikowore explained that power leaves the main plants at Kariba and Hwange at 330 kilovolts on Zimbabwe's two main grid lines, and then is stepped-down through a series of transformers, switches, and distribution lines to 220 volts for consumption. However, this whole distribution system suffers from years of vandalism and inadequate maintenance, resulting in large areas without power and cash-strapped ZESA unable to do anything about it.

¶7. (SBU) Among the vandalism is theft of the transmission fluid from the step-down transformers and theft of the timbers used to string the transmission lines. Chikowore explained that the same fluid used in the transformers can be used in diesel trucks and machinery. He estimated that over 900 transformers were in need of service or replacement in Harare and Gweru alone. In rural areas, the theft of wood timbers for firewood has caused whole power lines to collapse.

¶8. (SBU) Chikowore also explained that frequent load-shedding has significantly increased wear on the switching and isolation circuit breakers. Designed as a replacement item after approximately 2000 cycles, many of these circuit breakers were experiencing 4000 cycles every six months. With no money to replace them, he said ZESA was attempting to repair as many as possible, but admitted the repairs were crude and did not bring the breakers back to original condition. In July 2008, a fire completely destroyed a major substation in Stampford, a suburb of Harare, which left much of the city without power for a month. Chikowore said the fire was caused by a simple overload that should have been isolated through the

protective circuit breakers, but that none of them were functioning.

Harare experienced another substation fire on April 25, which left much of the western suburbs without power.

¶9. (SBU) When asked about the future, Chikowore gave a pessimistic prognosis, starting with the average tariff charged by ZESA. In March 2009, amidst a public outcry, the government announced an increase in the average tariff from USD 0.041 to USD 0.075 (7.5 cents) per kilowatt-hour, which Chikowore said is still a woefully low amount to fund capital improvement. Chikowore believes the tariff needs to be approximately 11 cents. By contrast, the average tariff is 9 cents in the U.S. and only 3.5 cents in South Africa.

¶10. (SBU) COMMENT: The electricity utility ZESA is another example of a bankrupt GOZ-owned operation. Like Zimbabwe's rail, road, medical, and telecommunications infrastructures, Zimbabwe's electricity system will require years and hundreds of millions of dollars to repair. In the short term, the public need for electricity is being supplanted by more pressing needs to fund teacher and civil-servant salaries by the cash-strapped government. Nonetheless, if the country is to experience economic recovery, it must restore power. END COMMENT.

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